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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,105	09/26/2003	Andrew D. Flockhart	4366-113	2566
48500	7590	09/02/2009		
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EXAMINER				
CHONG CRUZ, NADJA N				
ART UNIT		PAPER NUMBER		
3623				
MAIL DATE		DELIVERY MODE		
09/02/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/673,105

Applicant(s)

FLOCKHART ET AL.

Examiner

NADJA CHONG CRUZ

Art Unit

3623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 55-101 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 55-101 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-US)
Paper No(s)/Mail Date 8 May 2009
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Status of Claims

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 9 June 2009 has been entered.
2. Claims 1-54 have been canceled.
3. Claims 55-101 have been added.
4. Claims 55-101 are currently pending and has been examined.

Response to Amendment

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action.
6. The objection of claim 29 in the previous office action is withdrawn, in response to Applicant's amendments.
7. The rejection of claims 4, 6, 16, 21-23, 28, 42 and 49 under 35 U.S.C. 112, first paragraph is withdrawn in light of Applicant's amendment.
8. The rejection of claims 2, 4, 6 and 21-23 under 35 U.S.C. 112, second paragraph is withdrawn in light of Applicant's amendment.
9. The rejection of claims 21-23 under 35 USC § 101 paragraph is withdrawn in light of Applicant's amendment.

Claim Objections

10. Claims 58, 69, 81 and 93 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or

rewrite the claim(s) in independent form. As per claim 58 recites *applying, by a processor, the following rules to the results of the monitoring step: when a predetermined workload level exists in the at least one queue, performing steps (d) through (i); and when a predetermined workload level does not exist in the at least one queue, not performing steps (d) through (i)* does not further limit the subject matter of claim 55 because it is removing step from the claim 55 when a workload does not exist, therefore making the claim broader not narrow. As per claims 69, 81 and 93 recites *for each queue position "N_i", applying the following rules: when the sum is greater than N_i, performing steps (e) - (h), and when the sum is not greater than N_i, not performing steps (e) - (h)*, do not further limit the subject matter of claims 55, 78 and 90 respectively because it is removing step from the claims 55, 78 and 90 when the sum of work items are not greater than N_i, therefore making the claim broader not narrow. Appropriate correction is required.

11. Claims 72, 77, 84, 89, 94, 96 and 101 are objected to because of the following informalities:
12. As per claims 72, 84, 96 recite the same limitations as per claims 77, 89 and 101. Appropriate correction is required.
13. As per claim 94 recites subject matter related to claim 93 instead of claim 91. Examiner will interpret that claim 94 depends on claim 93 instead of claim 91. Appropriate correction is required.

Claim Rejections - 35 USC § 112

14. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

15. Claims 55-101 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As per claims 55, 78 and 90 recites *determining, by a processor and based on the results of the*

monitoring step, that a first enqueued work item, but not a second enqueued work item, must be put up for bid to meet a predetermined business policy, objective and/or goal for a type of contact corresponding to the first and selected enqueued work items, the limitation but not a second enqueued work is not supported by the original disclosure. As per claim 59, recites in the absence of bidding is not supported by the original disclosure.

16. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

17. Claims 55-101 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
18. As per claims 55, 78 and 90 recites *comparing, by a processor, the first and second bids; selecting, by a processor and based on the comparing step (g), the first bid*. Examiner is not clear why a comparison is made between the two bids, when it seems that the selected bid will be the first bid. Appropriate correction is required.
19. As per claim 62 recites *comparing the received bids with a maximum acceptable bid*. Examiner is not clear why the comparison is made when as recited in claim 55, the first bid is selected. Appropriate correction is required.
20. As per claim 57, the term "being temporally discrete" is a relative term which renders the claim indefinite. The term "being temporally discrete" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. For the purposes of this examination, *being temporally discrete* will be interpreted as when one operational mode is working the other operational mode is disconnected. Appropriate correction is required.

21. As per claims 55, 78 and 90 recites *the types of enqueued contacts, the priorities of enqueued contacts and the times*. As per claim 59, recites *the absence of bidding*. There is insufficient antecedent basis for these limitations in the claims.
22. As per claims 69-70, 81-82 and 93-94 recites "by a one of the next N_i resources [...]" for each queue position N_i in the queue representation, summing the work items in queue positions 1 to N_i . Examiner is not clear what N_i represents, does N_i is for resources or for each queue position? How work items can be sum? In the broadest reasonable interpretations, work items are not numbers. The claims were examined as best understood by the Examiner. Appropriate correction is required.

Claim Rejections - 35 USC § 101

23. 35 U.S.C. 101 reads as follows:
- Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
24. Claims 78-89 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicant is not permitted to claim "first and second set of resources [...]" each comprising a plurality of members" since they are human beings (e.g., claim 80: "the resources are human agents") See MPEP 2105 [R- 1].
25. On April 7, 1987, then Assistant Secretary and Commissioner of Patents and Trademarks, Donald J. Quigg, set forth PTO policy on this issue in the form of a notice entitled "Animals - Patentability". The notice affirmed that the "Patent and Trademark Office now considers nonnaturally occurring non-human multicellular living organisms, including animals, to be patentable subject matter within the scope of 35 U.S.C. 101" and relied on the now famous Supreme Court decision *Diamond v. Chakrabarty*, 447 U.S. 303, 206 USPQ 193 (1980).
26. However, Commissioner Quigg's notice also went on to affirm the long-standing PTO principle and practice that products found in nature will not be considered to be patentable subject matter under 35 U.S.C. 101. Specifically, the Commissioner stated that a "claim directed to or including

within its scope a human being will not be considered to be patentable subject matter under 35 U.S.C. 101" since the grant of a limited, but exclusive property right in a human being is prohibited by the Constitution (presumably the 13th Amendment). The language "including within its scope a human being" is the important language here.

Response to Arguments

27. Applicant's arguments received on 9 June 2009 with respect to claims 55, 78 and 90 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

28. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

29. Claims 55-64, 67, 71, 74-76, 78-80, 86, 90-91 and 98 and are rejected under 35 U.S.C. 103(a) as being unpatentable over British Telecommunications, European Patent Application EP 1 246 097 A1, published on October 2, 2002, hereinafter "BT" in view of Philonenko (US 2002/0131399 A1) further in view of Official Notice.

Claim 55:

BT as shown discloses a method, the method comprising:

- *(a) providing first and second sets of resources to service work items, the first and second sets of resources each comprising a plurality of members (Figure 3 illustrates a first set of resources (e.g., Workgroup 1) and a second set of resources (e.g., Workgroup 2) wherein each one comprise a plurality of members (e.g., workers);*

BT does not expressly teach monitoring. However, Philonenko in an analogous art of allocating work items for the purpose of monitoring (§ 0039) as shown does:

- *(b) monitoring, by a processor, a plurality of wait times of selected enqueued work items, an occupancy of a selected queue, a number of available members of the first set of resources to service enqueued work items, the types of enqueued contacts, the priorities of enqueued contacts, and anticipated workload levels* (§ 0039: "[t]he CTI application monitors switch 21 for incoming calls to a routing or call distribution point. The status of telephones at agent stations is also monitored, so the application has access to real-time information as to which logged-in agents are busy on a call and which are not" (e.g., an occupancy of a selected queue, a number of available members), § 0055 which teaches a type of enqueued contact e.g., call 2 requires a Spanish-speaking agent, § 0111 which teaches that "[t]his concept may be practiced to help load balance busy agents without losing clients due to long waiting periods (e.g., a plurality of wait times of selected enqueued work items) and see also figures 3 and 4 which illustrates the priorities of enqueued contacts and anticipated work load levels "Calls Waiting Queue");

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT to include the teaching of Philonenko e.g., monitoring because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Further, BT teaches:

- *(c) determining, by a processor and based on the results of the monitoring step, that a first enqueued work item, but not a second enqueued work item, must be put up for bid to meet a predetermined business policy, objective and/or goal for a type of contact corresponding to the first and selected enqueued work items* (§ 0014 which teaches that "[t]he OSS agent 31 prices the work item" (e.g., a first enqueued

work item for a bid) "using a cost function that reflects its business priorities" (e.g., predetermined business policy, objective and/or goal));

- *(d) determining, by a processor, the times to initiate and complete the bidding process, wherein the time is a function of an estimation of when the predetermined business policy, objective, and/or goal will be violated in the absence of servicing of the first work item* (§ 0014 which teaches that "[t]he OSS agent 31 prices the work item using a cost function that reflects its business priorities, for example the urgency to work with respect to penalty clauses" (e.g., violation in the absence of servicing the first work item), "or the value of the customer according to some model (step s4). For example, the OSS agent 31 will price urgent work low, so that it is easier for the mediator agents 28, 29 to buy it", therefore, the OSS agent determine the times to initiates and complete the bidding process in order to provide a service to a work item by reflecting its business priorities);
- *(e) requesting, by a processor, first and second members of the second set of resources to submit a bid to service the first, but not the second, work item* (§ 0014 which teaches that "[t]he mediator agent 29 for the second workgroup 21" (e.g., a second set of resources) "also determines that it can allocate the work item to its workers," (e.g., submit a bid to service the first work item) "who are not very busy, so that the work item will assist the workgroup in reaching its targets. The second mediator agent 29 is therefore prepared to offer P+10 for the work item. In this case, the OSS agent 31 accepts the offer of P+10 from the second mediator agent 29 and allocates the work item to it" wherein "[t]he mediator agent 29 then allocates/sells the work on to the workers (step s15)" (e.g., the first and second members of the second set or resources), see also figure 4);
- *(f) receiving, from the first and second members first and second bids, respectively, to service the first work item* (§ 0014 which teaches that "[t]he OSS agent 31

receives bids from all workgroups" (e.g., from the first and second members) "and determines how many bids it has received for the work item" (e.g., the first work item), see also figure 4);

- *(g) comparing, by a processor, the first and second bids; (h) selecting, by a processor and based on the comparing step (g), the first bid; (¶ 0014 which teaches that "[i]f more than one mediator agent makes a bid (step s11) the OSS agent 31 accepts the bid at the highest price" therefore in order to select the highest price a comparison between bids have been made by the OSS agent, see also figure 4);*
- *and (i) assigning, by a processor, the first work item to the first member for servicing (Figure 4 which it illustrates in reference s15 "[a]llocate work item to workers" (e.g., the first work item to the first member));*

As per **claims 78 and 90**, these claims encompass substantially the same scope as claim 55. Accordingly, claims 78 and 90 are rejected in substantially the same manner as claim 55, as described above.

Claims 56, 79 and 91:

BT as shown discloses the following limitation:

- *wherein the first set of resources comprises a plurality of resources internal to a contact center, wherein the second set of resources comprises a plurality of resources external to the contact center network (¶ 0003, 0006, 0011 and Figure 3, which teaches that "a work allocation system for allocating work items between a plurality of workgroups" (e.g., different set of resources), "comprising a work source agent for providing a work item and a plurality of mediator agents, each associated with a respective workgroup, wherein each of the mediator agents is configured to request the work item from the work source agent in dependence on preference data for its respective workgroup.". Further, "[o]nce a work item is acquired, the mediator*

agent for a given workgroup can offer the work item to each of the workers in the workgroup". Figure 3 illustrates two workgroups, Workgroup 1 and Workgroup 2, where "[t]he OSS 2 is provided with, or generates, a definition of a work project to be carried out by one or more workgroups 20, 21. Each workgroup 20, 21 includes a plurality of workers 22-24; 25-27, each of whom has access to a workgroup terminal 4, 5. Each of the workgroup terminals 4, 5 runs a software program referred to herein as a mediator agent 28,29, which is capable of communicating with the OSS 2 and each of a plurality of workers 22 - 27 in the workgroups 20, 21 via a graphical user interface (gui).");

- *wherein the work item is a contact from a customer* (§ 0012: which teaches that "[c]ustomers 32, or the environment 33, generate work items that are acquired by the work item handler 30, for example a customer handling system, maintenance schedule or fault detector");
- *and wherein the first work item is in a queue of multiple work items* (§ 0014 which teaches that "the mediator agent 28, 29 for the workgroup may decide not to bid for the work (step s8), but instead waits for the next offer on the next available work item (step s6)" where BT teaches that a first work item is in a queue of multiple work items in order to wait for the next offer (e.g., work item));

BT does not expressly teach that workgroup 1 are not employees of the contact center, neither workgroup 2 are employees of the contact center. BT teaches that "a work allocation system for allocating work items between a plurality of workgroups" (e.g., different set of resources), "comprising a work source agent for providing a work item and a plurality of mediator agents, each associated with a respective workgroup" (BT, ¶ 0003). However, it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify BT by assigning a plurality of resources internal to a contact center as workgroup 1 and a plurality of resources external to a contact center as workgroup 2 because "[e]ach workgroup 20, 21 includes a plurality

of workers 22-24; 25-27, each of whom has access to a workgroup terminal 4, 5. Each of the workgroup terminals 4, 5 runs a software program referred to herein as a mediator agent 28, 29, which is capable of communicating with the OSS 2 and each of a plurality of workers 22 - 27 in the workgroups 20, 21 via a graphical user interface (gui)." (BT, ¶ 0011) In addition, it is old and well known in work allocation art to outsource resources in order to lower cost and to minimize unanswered and unattended inbound calls.

Claim 57:

BT as shown discloses the following limitation:

- *wherein bids are requested only during a first operational mode in which bidding is performed and not in a second operational mode in which bidding is not performed, the first and second operational modes being temporally discrete from each other* (Figure 4, which it illustrates a first operational mode in which bidding is performed (e.g., "s9" through "s15") and a second operational mode in which bidding is not performed (e.g., "s8" and "s6") where both modes are being temporally discrete from each other);

Claim 58:

BT teaches that "the mediator agent 28, 29 calculates whether the allocation of the work will meet its local business priorities, for example targets for total work time for its workgroup and therefore whether it should make a bid at all (step s8). As a result of the calculation, the mediator agent 28, 29 for the workgroup may decide not to bid for the work (step s8)," (BT, ¶ 0014) BT does not expressly teach the following limitations. However Philonenko in an analogous art of work allocation for the purpose of monitoring a predetermined workload level (Figure 3, ¶ 0039), as shown does:

- *wherein the monitoring step (b) and determining step (c) comprise the substeps: monitoring, by a processor, at least one queue of work items* (¶0039: which teaches

that "[t]he CTI application monitors switch 21 for incoming calls to a routing or call-distribution point" as shown in Figure 3 "Call Waiting Queue");

- *the at least one queue of work items corresponding to a first set of internal resources for servicing work items in the at least one queue; and* (Figure 3, which teaches a first set of resources available for servicing work items in the queue (e.g., Agent 3 or Agent 2));
- *applying, by a processor, the following rules to the results of the monitoring step: when a predetermined workload level exists in the at least one queue, performing steps (d) through (i); and* (¶ 0129 and ¶ 0039: which teaches that "the priority queue limit in switch 135 at center 117 is 10 calls" (e.g., a predetermined workload level). Further, Philonenko teaches that "[t]he status of telephones at agent stations is also monitored, so the application has access to real-time information as to which logged-in agents are busy on a call and which are not. The application operates to command switch 21 to distribute calls on a FIFO basis to logged-in available agents");
- *when a predetermined workload level does not exist in the at least one queue, not performing steps (d) through (i)* (See Claim 1 and ¶ 0143: which teaches that "a caller may gain initiative IVR interaction for the purpose of bidding for advancement or further advancement in queue". It is implicitly disclosed that a predetermined workload does not exist, a bidding process is not necessary);

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT to include the teaching of Philonenko because as explained above in claim 55.

Claim 59:

BT as shown discloses the following limitation:

- *wherein the predetermined workload level exists when there is a likelihood that a service goal for at least one work item in the at least one queue will not be satisfied in the absence of bidding* (¶ 0014 which teaches that "[t]he OSS agent 31 prices the work item using a cost function that reflects its business priorities, for example the urgency of the work with respect to penalty clauses," (e.g., a service goal for at least one work item in the at least one queue will not be satisfied) "or the value of the customer according to some model (step s4). For example, the OSS agent 31 will price urgent work low," (e.g., a predetermined workload level exists) "so that it is easier for the mediator agents 28, 29 to buy it");

Claim 60:

BT does not expressly teach the following limitations. However Philonenko in an analogous art of work allocation for the purpose of providing a predetermined workload level (Figure 3, ¶ 0039), as shown does:

- *wherein the predetermined workload level exists when a queue position in the required queue is less than a number of work items ahead of the queue position in the required queue* (¶ 0051: which teaches that "a broad variety of rules and conditions" (e.g., the required queue is less than a number of work items) "with regards to agents such as incorporating various sub-states such as E-mail duties, setting interrupt rules for particular agents, and so on." Philonenko teaches that based on predetermined rules and conditions, "an agent residing at agent station 33 may be reported busy because he is answering E-mails and cannot be interrupted by a telephone call unless it is of priority 7 or above. In this case, if there are no other agents available to take the priority 7 call, it will be routed to the agent at agent station 33. He will accept the call and suspend his E-mail duty until he has disposed of the call, and so on.")

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT to include the teaching of Philonenko because as explained above in claim 55.

Claim 61:

BT as shown discloses the following limitation:

- *determining a number and identities of work items to be presented for bidding to the set of resources* (¶ 0014 "the mediator agent 28, 29 calculates whether the allocation of the work will meet its local business priorities, for example targets for total work time for its workgroup and therefore whether it should make a bid at all (step s8));

Claim 62:

BT as shown discloses the following limitation:

- *wherein the selecting step (h) comprises: comparing the received bids with a maximum acceptable bid* (¶ 0014 which teaches that "[i]f more than one mediator agent makes a bid (step s11), the OSS agent 31 accepts the bid at the highest price (step s13));

Claim 63:

BT as shown discloses the following limitation:

- *wherein the selecting step (h) comprises: determining, for each bidding resource in the second set of resources, a composite value reflecting a plurality of a work item value, a resource value and a bid* (Figure 3 illustrates a second set of resources (e.g., Workgroup 2), ¶ 0015-0016 which teaches that "[t]he mediator agent 29 then allocates/sells the work on to the workers (step s15)" wherein workers bid for a work item, further, "[t]he mediator agent 28, 29 prices work based on two factors, the value of the work to the overall business" (e.g., a plurality of a work time value) "as expressed by the OSS agent 31, namely the cost price to the mediator and a model of the impact of a particular agent performing a piece of work on the overall

efficiency of the team" (e.g., a resource value), see also ¶ 0027 which disclose a composite value);

- *and comparing the determined composite values to select a resource from the second set of resources to service the first work item* (¶ 0017 which teaches a comparison between two workers, wherein the work item is assigned to the worker (e.g., a resource) that would most efficiently perform the work);

Claim 64:

BT as shown discloses the following limitation:

- *further comprising after the receiving step (f): determining whether or not a workload level for the contact center requires the first work item that is the subject of the received bids to be serviced by a resource in the second set of resources* (¶ 0014 which teaches that "[t]he mediator agent 28 for the first workgroup 20 determines that it can allocate the work item to its workers, but its workgroup is relatively busy and cannot do the work urgently. It is therefore prepared to offer P for the work item. The mediator agent 29 for the second workgroup 21 also determines that it can allocate the work item to its workers, who are not very busy, so that the work item will assist the workgroup in reaching its targets." BT teaches that when the first set is not available the second set bid for the work item);

Claim 67:

BT as shown discloses the following limitation:

- *wherein the bid is at least one of a monetary service fee, a service time, an opportunity cost to the contact center for servicing the work item, and an overhead cost to the contact center for servicing the work item* (¶ 0014: "the OSS agent 31 accepts the bid at the highest price" (e.g., a monetary service fee));

Claims 71, 83 and 95:

BT as shown discloses the following limitation:

- *wherein a number of work items to be put out for bid is a function of anticipated or expected future work item surplus levels and wherein identities of which work items are to be put out for bid is a function of at least one of relative values of work items, skill levels of available resources in the second set of resources, and types of work items* (§ 0014 which teaches that "[t]he OSS agent 31 prices the work item using a cost function that reflects its business priorities, for example the urgency of the work" (e.g., anticipated or expected future work item surplus levels) "with respect to penalty clauses, or the value of the customer according to some model (step s4)." Further, in § 0014-0017 teaches that "the OSS agent 31 provides a work item with a relatively high price P, indicating that the work item is categorized as desirable");

BT does not expressly teaches a number of work items to be put out for bids as a function of anticipated or expected future work item surplus levels. However Examiner takes Official Notice that it is old and well known in the bidding arts to submit a number of work items for bidding based on anticipated or expected future works item surplus levels as evidenced by Morris et al., Sardine: Dynamic Seller Strategies in an Auction Marketplace, EC'00, ACM as shown in page 6, col. 2, last paragraph "Beam et al. present pricing strategies for seller in a single-item auction and examine these strategies in real auction settings. They discuss extensions for N-item auction and propose strategies for managing inventory surplus". Therefore it would have been obvious to one of ordinary skill in the art to modify BT in view of Philonenko to include the teaching of Official Notice e.g., to put of for bidding surplus items, because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 74:

BT as shown discloses the following limitation:

- *wherein step (g) comprises the sub-steps: (G1) calculating, respectively, first and second composite values for the first and second members based on a plurality of a value of the first work item, the respective bid, and a skill level, experience level, and/or value of the member; and (Figure 3 illustrates a second set of resources (e.g., Workgroup 2), ¶ 0015-0016 which teaches that "[t]he mediator agent 29 then allocates/sells the work on to the workers (step s15)" wherein workers bid for a work item, further, "[t]he mediator agent 28, 29 prices work based on two factors, the value of the work to the overall business" (e.g., a plurality of a work time value) "as expressed by the OSS agent 31, namely the cost price to the mediator and a model of the impact of a particular agent performing a piece of work on the overall efficiency of the team" (e.g., a resource value: skill level, experience level, and/or value of the member), see also ¶ 0027 which disclose a composite value);*
- *(G2) comparing the first and second composite values (¶ 0017 which teaches a comparison between two workers, wherein the work item is assigned to the worker (e.g., a resource) that would most efficiently perform the work);*

Claim 75:

BT as shown discloses the following limitation:

- *each resource value range having a different acceptable bid threshold (¶ 0016-0017 which teaches that "[t]he mediator agent 28, 29 prices work based on two factors, the value of the work to the overall business as expressed by the OSS agent 31, namely the cost price to the mediator and a model of the impact of a particular agent performing a piece of work on the overall efficiency of the team" (e.g., a resource value). BT teaches that each worker have a different acceptable bid threshold based on a model of the impact of a particular agent toward the overall efficiency of the team);*

BT does not expressly teach the following limitation. However, Philonenko in an analogous art of allocating work items for the purpose of mapping a resource value (§¶ 0039) as shown does:

- *wherein steps (g) and (h) are performed by mapping a resource value of the first member against a resource value range* (Figures 3-4 illustrates the resource value of each agent e.g., Agent 2, Priority Level 6 accepted, and §¶ 0060 teaches that "[a]gent 2 is busy with a priority 6 call and can be interrupted with a lower priority call" "[a]gent 2 is now free to accept call 1". Further in §¶ 0037 Philonenko "assign priority to incoming calls and to route calls to agents at the call center based on the assigned priority, together with information about agent skills" (e.g., resource value) "and status".)

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT to include the teaching of Philonenko e.g., monitoring because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 76:

BT as shown discloses the following limitation:

- *each work item value range having a different acceptable bid threshold* (§¶ 0014: "the OSS agent 31 provides a work item with a relatively high price P, indicating that the work item is categorized as desirable", further "[t]he OSS agent 31 prices the work items using a cost function that reflects its business priorities");

BT does not expressly teach the following limitation. However, Philonenko in an analogous art of allocating work items for the purpose of mapping a resource value (§¶ 0039) as shown does:

- *wherein steps (g) and (h) are performed by mapping a work item value of the first work item against a work item value range* (§¶ 0054-0055 which teaches a work item value that requires a Spanish-speaking agent wherein it is assigned to Agent 2);

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT to include the teaching of Philonenko e.g., monitoring because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

As per **claim 80**, this claim encompasses substantially the same scope as claim 66. Accordingly, claim 80 is rejected in substantially the same manner as claim 66, as described below.

As per **claims 86 and 98**, these claims encompass substantially the same scope as claim 74. Accordingly, claims 86 and 98 are rejected in substantially the same manner as claim 74, as described above.

As per **claims 87 and 99**, these claims encompass substantially the same scope as claim 75. Accordingly, claims 87 and 99 are rejected in substantially the same manner as claim 75, as described above.

As per **claims 88 and 100**, these claims encompass substantially the same scope as claim 76. Accordingly, claims 88 and 100 are rejected in substantially the same manner as claim 76, as described above.

30. Claims 65-66, 72-73, 77, 84-85, 89, 92, 96-97 and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over British Telecommunications, European Patent Application EP 1 246 097 A1, published on October 2, 2002, hereinafter "BT" in view of Philonenko (US 2002/0131399 A1) further in view of Official Notice as applied to claims 55-64, 67, 71, 74-76, 78-80, 86, 90-91 and 98 above further in view of Borissov et al., (US 2002/0029213 A1) hereinafter "Borissov".

Claim 65:

BT as shown discloses the following limitation:

- *and receiving, from the at least some resources, additional bids after the displaying step* (¶ 0014: "[t]he OSS agent 31 receives bids from all workgroups);

BT provides offers to mediator agents (BT, figure 4). Philonenko teaches that "[s]tatements 147-153 are equipped with agent-operated personal computer/video display units" (¶ 0075). The

combination of BT and Philonenko do not expressly teach displaying bids information to the resources. However, Borissov in an analogous art of allocating work items for the purpose of displaying information (§ 0091) as shown does:

- *displaying at least one of the first and second bid and/or information associated with the at least one of the first and second bids to at least some resources in the second set of resources (§ 0091: "[t]he list displays basic information such as opening and closing times for bidding and time remaining until closing for each need");*

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT in view of Philonenko to include the teaching of Borissov because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 66:

BT as shown discloses the following limitation:

- *wherein at least some of the resources are human agents (figure 3, workers 22, 23, 24, 25, 26 and 27);*
- *wherein the members of the first set of resources are employees of a contact center, wherein the members of the first set of resources are subscribers to an enterprise network defined by the contact center, wherein the members of the second set of resources are not employees of the contact center, wherein the members of the second set of resources are not subscribers to an enterprise network defined by the contact center, and wherein steps (d)-(h) are performed when a different set of resources is unable to service the contact as required by contact center policies, objectives, and/or goals, the different set of resources being employees of the contact center and subscribers of the enterprise network (§ 0003,*

0006, 0011 and Figure 3, which teaches that "a work allocation system for allocating work items between a plurality of workgroups" (e.g., different set of resources), "comprising a work source agent for providing a work item and a plurality of mediator agents, each associated with a respective workgroup, wherein each of the mediator agents is configured to request the work item from the work source agent in dependence on preference data for its respective workgroup.". Further, "[o]nce a work item is acquired, the mediator agent for a given workgroup can offer the work item to each of the workers in the workgroup". Figure 3 illustrates two workgroups, Workgroup 1 and Workgroup 2, where "[t]he OSS 2 is provided with, or generates, a definition of a work project to be carried out by one or more workgroups 20, 21. Each workgroup 20, 21 includes a plurality of workers 22-24; 25-27, each of whom has access to a workgroup terminal 4, 5. Each of the workgroup terminals 4, 5 runs a software program referred to herein as a mediator agent 28,29, which is capable of communicating with the OSS 2 and each of a plurality of workers 22 - 27 in the workgroups 20, 21 via a graphical user interface (gui).");

BT does not expressly teach that workgroup 1 are not employees of the contact center, neither workgroup 2 are employees of the contact center. BT teaches that "a work allocation system for allocating work items between a plurality of workgroups" (e.g., different set of resources), "comprising a work source agent for providing a work item and a plurality of mediator agents, each associated with a respective workgroup" (BT, ¶ 0003). However, it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify BT by assigning a set of resources that are employees of the contact center to workgroup 1 and a set of resources that are not employees of the contact center to workgroup 2 because "[e]ach workgroup 20, 21 includes a plurality of workers 22-24; 25-27, each of whom has access to a workgroup terminal 4, 5. Each of the workgroup terminals 4, 5 runs a software program referred to herein as a mediator agent 28, 29, which is capable of communicating with the OSS 2 and each of a plurality of

workers 22 - 27 in the workgroups 20, 21 via a graphical user interface (gui)." (BT, ¶ 0011) In addition, it is old and well known in work allocation art to outsource resources in order to lower cost and to minimize unanswered and unattended inbound calls.

As per **claims 80 and 92**, these claims encompass substantially the same scope as claim 66. Accordingly, claim 80 is rejected in substantially the same manner as claim 66, as described above.

Claims 72 and 77:

The combination of BT and Philonenko do not expressly teach the following limitations. However, Borissov in an analogous art of allocating work items for the purpose of displaying information (¶ 0091) as shown does:

- *wherein steps (e) and (f) comprise: publishing on work stations of first and second members of the second set of resources a plurality of a description of the first work item, an acceptable bid threshold, a closure time for bidding, an indication whether bids may be changed by a bidder, and how many times a bid may be changed by a bidder* (¶ 0091-0092 which teaches "[t]he list displays basic information such as opening and closing times for bidding and time remaining until closing for each need", "all current bids together with the associated preferences indicated by each bidder will be displayed to participants consultants" (e.g., first and second members of the second set of resources). See also Figure 2);
- *when a bid is received, providing the bidder with an indication whether or not his bid is less than, greater than or equal to an acceptable bid threshold* (¶ 0044 and Figure 2 illustrates after submitting a bid the option to increase a bid);

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT in view of Philonenko to include the teaching of Borissov because as discussed above in claim 65.

As per **claims 84 and 96**, these claims encompass substantially the same scope as claim 72. Accordingly, claims 84 and 96 are rejected in substantially the same manner as claim 72, as described above.

As per **claims 89 and 101**, these claims encompass substantially the same scope as claim 77. Accordingly, claims 89 and 101 are rejected in substantially the same manner as claim 77, as described above.

Claim 73:

BT as shown discloses the following limitation:

- *wherein the acceptable bid threshold is a function of one or more of a value of the work item that is the subject of the bid, a cost for a member of the first set of resources to service the work item that is the subject of the bid, and an amount of surplus work items to be serviced* (§ 0014 which teaches that "[i]f more than one mediator agent makes a bid (step s11) the OSS agent 31 accepts the bid at the highest price" (e.g., the value of the work item));

As per **claims 85 and 97**, these claims encompass substantially the same scope as claim 73. Accordingly, claims 85 and 97 are rejected in substantially the same manner as claim 73, as described above.

31. Claim 68 is rejected under 35 U.S.C. 103(a) as being unpatentable over British Telecommunications, European Patent Application EP 1 246 097 A1, published on October 2, 2002, hereinafter "BT" in view of Philonenko (US 2002/0131399 A1) further in view of Official Notice as applied to claims 55-64, 67, 71, 74-76, 78-80, 86, 90-91 and 98 in view of Spratz, Out with the new, in with the old: A look at scheduling alternatives, Customer Inter@ction Solutions; Nov. 2001: 20,5

Claim 68:

BT and Philonenko do not expressly teach the following limitation. However, Spratz in an analogous art of allocating work items for the purpose of schedule bidding (page 48, column 1, 2nd ¶) as shown does:

- *wherein a plurality of work items are put out for bid and further comprising: dynamically varying a bidding time for each of the plurality of work items* (page 50, 2nd column, 3rd ¶ which teaches that “the effects of agent turnover and changes in contact volumes” (e.g., a plurality of work items) are put out for bid (e.g., schedule bidding) during a “bid cycle” (e.g., dynamically varying a bidding time) “to fill in the gaps”);

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to bid a plurality of work items by dynamically varying a bidding time (e.g., bid cycle) as taught by Spraezt, to improve Philonenko, thereby giving the predictable result of optimizing “resource use and meet service goals.” (Spraezt, page 50, 1st column, 3rd ¶).

32. Claims 69-70, 81-82 and 93-94 are rejected under 35 U.S.C. 103(a) as being unpatentable over British Telecommunications, European Patent Application EP 1 246 097 A1, published on October 2, 2002, hereinafter “BT” in view of Philonenko (US 2002/0131399 A1) further in view of Official Notice as applied to claims 55-64, 67, 71, 74-76, 78-80, 86, 90-91 and 98 above further in view of Faber et al., (US 6,519,570 B1) hereinafter “Faber”.

Claim 69:

BT teaches that “the mediator agent 28, 29 for the workgroup may decide not to bid for the work (step s8), but instead waits for the next offer on the next available work item (step s6)” where BT teaches that a first work item is in a queue of multiple work items in order to wait for the next offer (e.g., work item)); (BT, ¶ 0014). BT does not expressly teach the following limitations, however, Philonenko in an analogous art of allocating work items for the purpose of determining queue positions (Figures 3 and 4) as shown does:

- *wherein at least one of steps (c) and (d) comprise: determining a required queue position for each work item in a selected queue, wherein the required queue position indicates that a service-time goal of the respective work item, is met only when the respective work item, is serviced by a one of the next “N_i” resources in the first set of*

resources to become available to service work items in the selected queue (Figures 3 and 4 illustrates the required queue position for each work item indicating when a resource is available to service the work item);

- *and for each queue position "N_i" in the queue representation, summing the work items in queue positions 1 to N_i; and for each queue position "N_i", applying the following rules: when the sum is greater than N_i, performing steps (e) - (h), and when the sum is not greater than N_i, not performing steps (e) - (h) ¶ 0043-0045 which teaches that "information may be elicited from callers (clients) at processing points in the network, and the information transferred to the call center with or ahead of the call. This information may be sorted and used according to preprogrammed rules to assign priority. [...] Many such possibilities are extant for priority determination and assignment. "*

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT to include the teaching of Philonenko because as explained above in claim 55.

The combination of BT and Philonenko do not expressly teach the following limitation. However, Faber in an analogous art of conducting a time action for the purpose of generating a queue representation (col. 5, lines 25-29) as shown does:

- *generating a representation of a queue, the representation reflecting the required queue positions for the work items in the selected queue (col. 5, lines 25-29 which teaches that "a graphical representation of the customer's position 1121 in the queue 1120")*

Therefore, it would have been obvious to one of ordinary skill in the art to modify BT in view of Philonenko to include the teaching of Faber because the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

As per **claims 81 and 93**, these claims encompass substantially the same scope as claim 69. Accordingly, claims 81 and 93 are rejected in substantially the same manner as claim 69, as described above.

Claims 70, 82 and 94:

BT as shown discloses the following limitation:

- *wherein a number by which a sum exceeds N_i is a number of work items to be put out for bid and an initial queue position in the representation of a queue at where the sum is greater than N_i , is used to determine a time available for the bidding process to be completed* (¶ 0014 which teaches that "[t]he OSS agent 31 prices the work item using a cost function that reflects its business priorities, for example the urgency to work with respect to penalty clauses" (e.g., violation in the absence of servicing the first work item), "or the value of the customer according to some model (step s4). For example, the OSS agent 31 will price urgent work low, so that it is easier for the mediator agents 28, 29 to buy it", therefore, the OSS agent determine the times to initiates and complete the bidding process in order to provide a service to a work item by reflecting its business priorities);

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- Morris et al., Sardine: Dynamic Seller Strategies in an Auction Marketplace, EC'00, ACM.

Any inquiry of a general nature or relating to the status of this application or concerning this communication or earlier communications from the Examiner should be directed to **Nadja Chong** whose telephone number is **571.270.3939**. The Examiner can normally be reached on Monday-Friday, 9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, **BETH BOSWELL** can be reached at **571.272.6737**.

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Page 28

Art Unit: 3623

Supervisory Patent Examiner, Art Unit 3623